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[54] **LIGHTING FIXTURE INCORPORATING FOUNTAIN**

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[51] **Int. Cl.**[5] **F21P 7/00**

[52] **U.S. Cl.** **362/96**; 362/276; 362/806; 239/18

[58] **Field of Search** 362/96, 101, 276, 295, 362/802, 806; 239/18

[56] **References Cited**

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Primary Examiner—Richard R. Cole
Attorney, Agent, or Firm—Wagner & Middlebrook

[57] **ABSTRACT**

An illuminated fountain includes a housing with a water chamber in the housing having a cap with perforations and a transparent bottom panel, a lamp in the housing and a mirror for reflecting light from said lamp through the bottom panel of the water chamber. A source of electrical energy is connected to the housing and a pressure switch in the housing is connected between the electrical energy source and the lamp. The pressure switch has a fluid connection with the inlet to the water chamber such that it delivers current to the lamp only when water is flowing to the chamber.

8 Claims, 2 Drawing Sheets

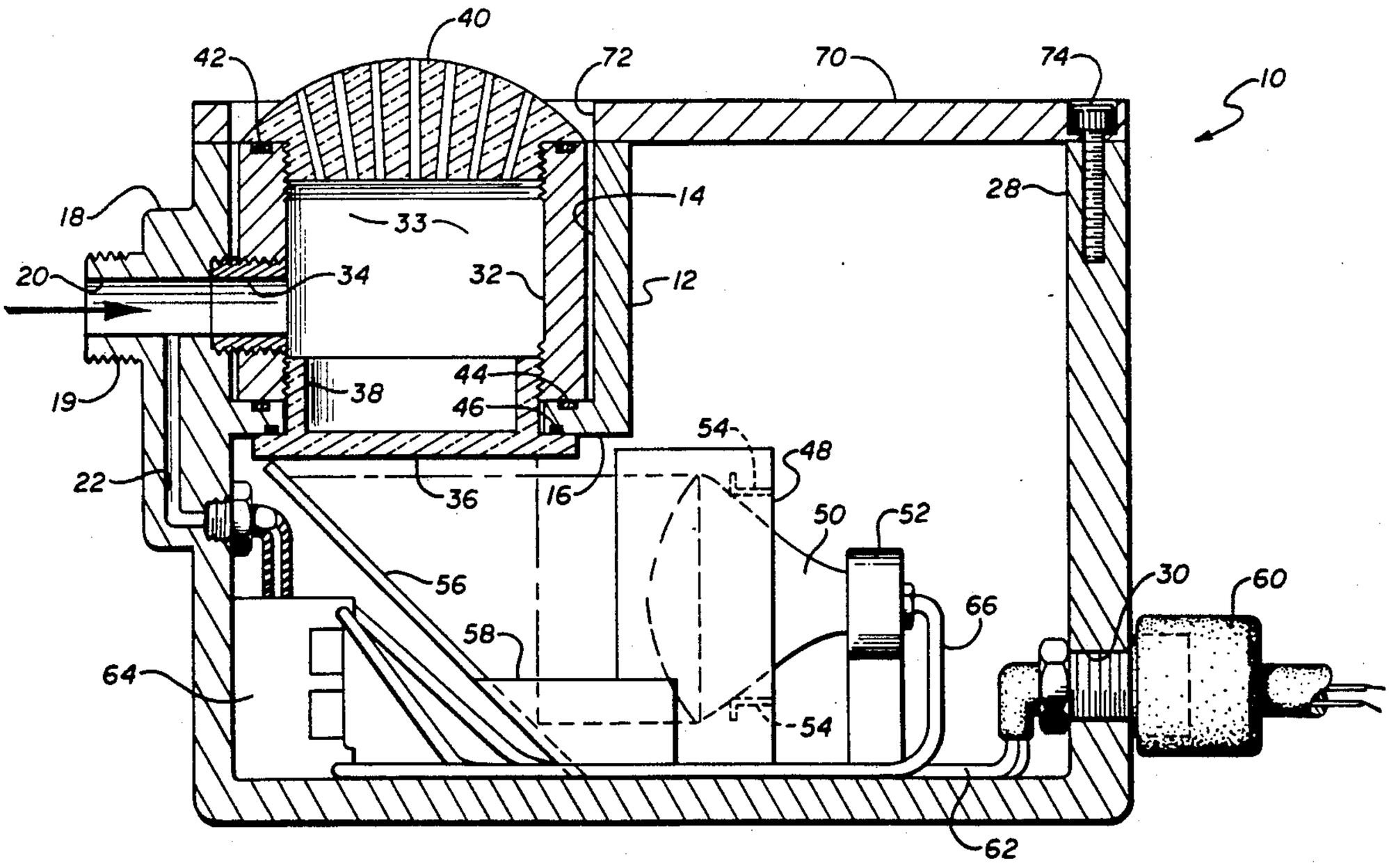
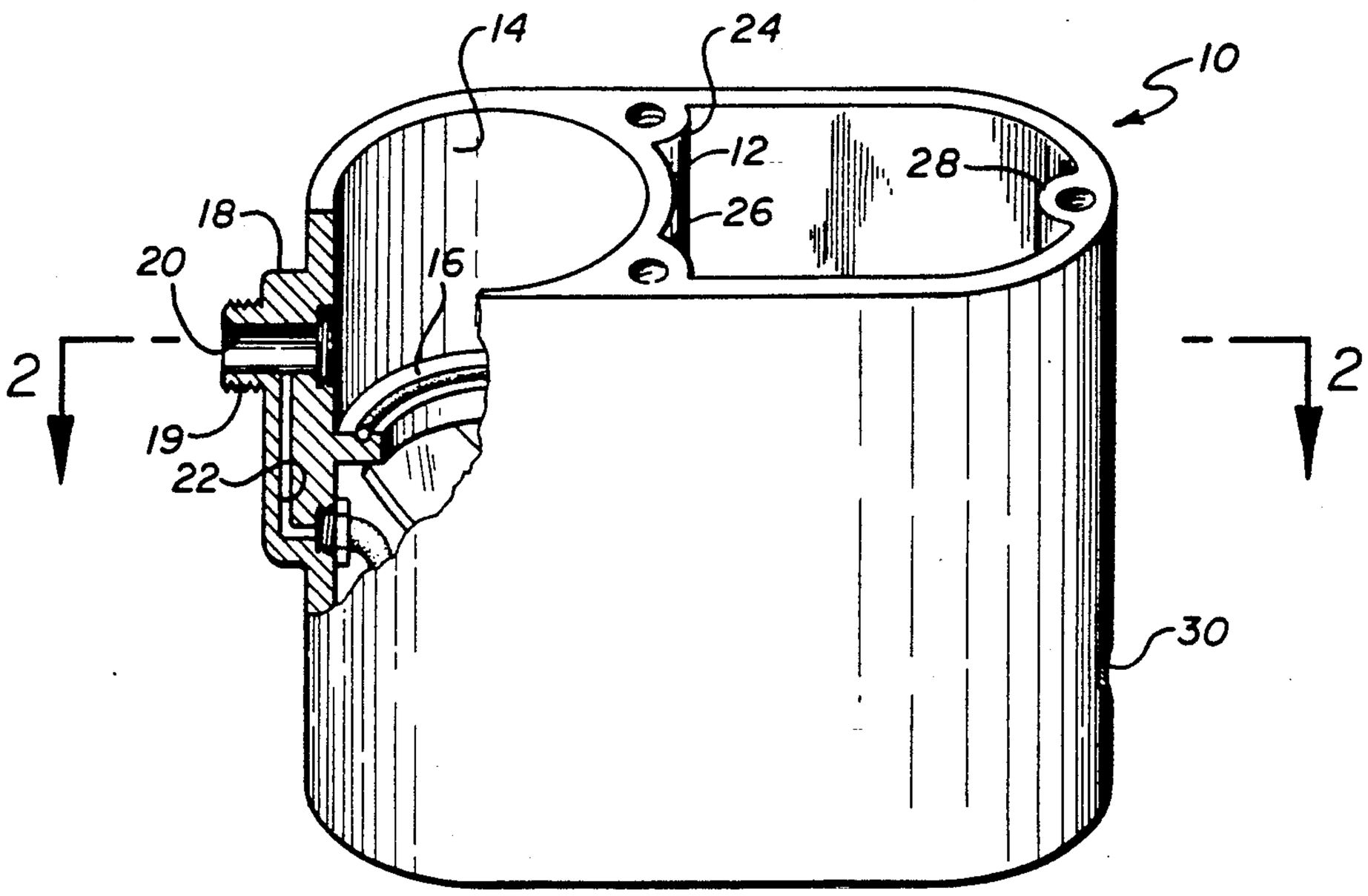


FIG. 1



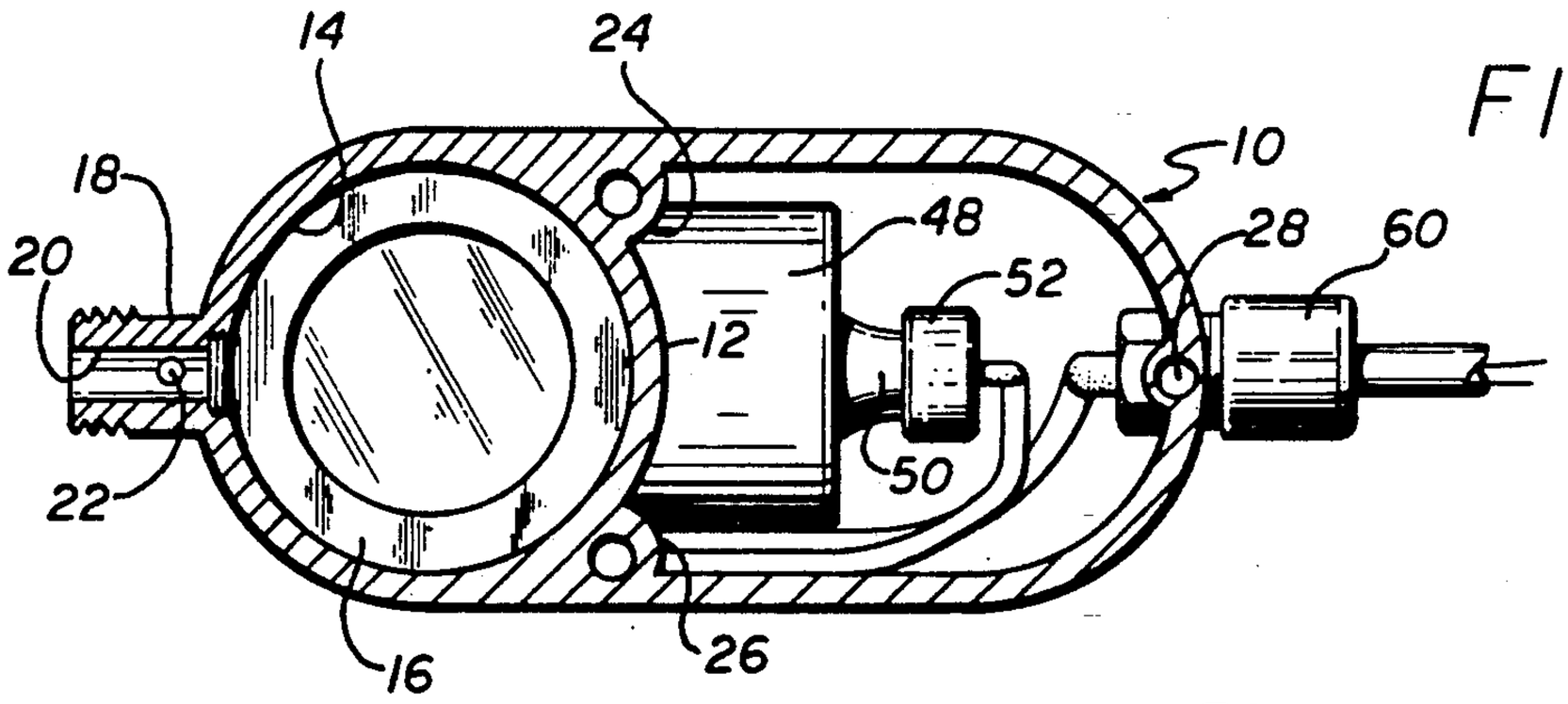


FIG. 2

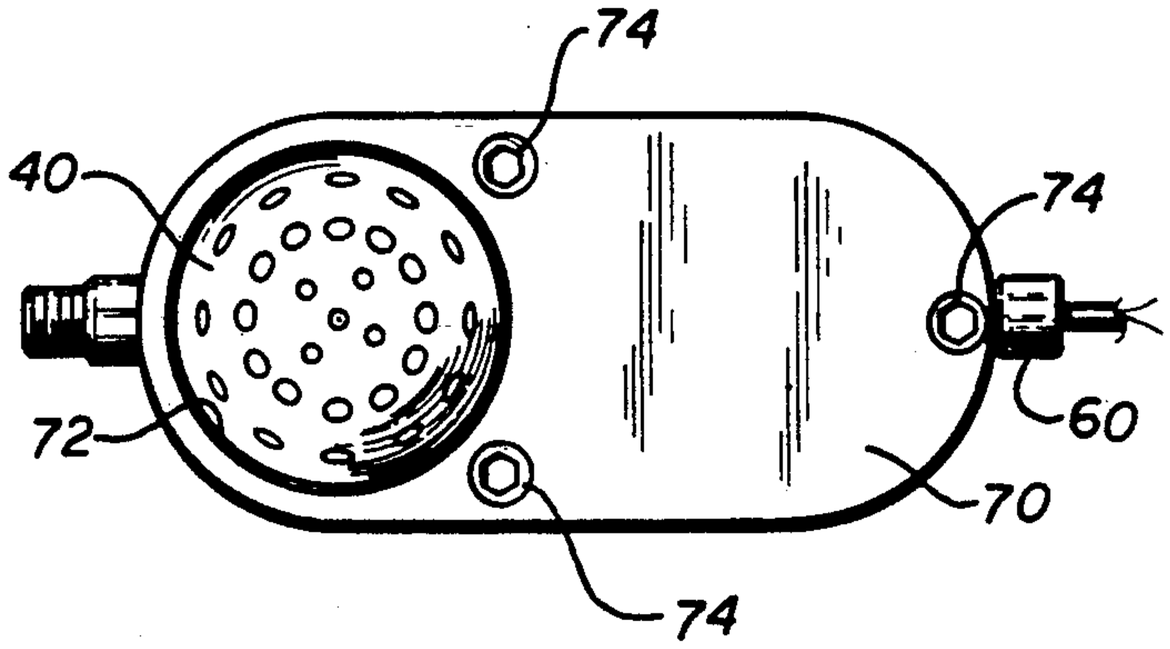
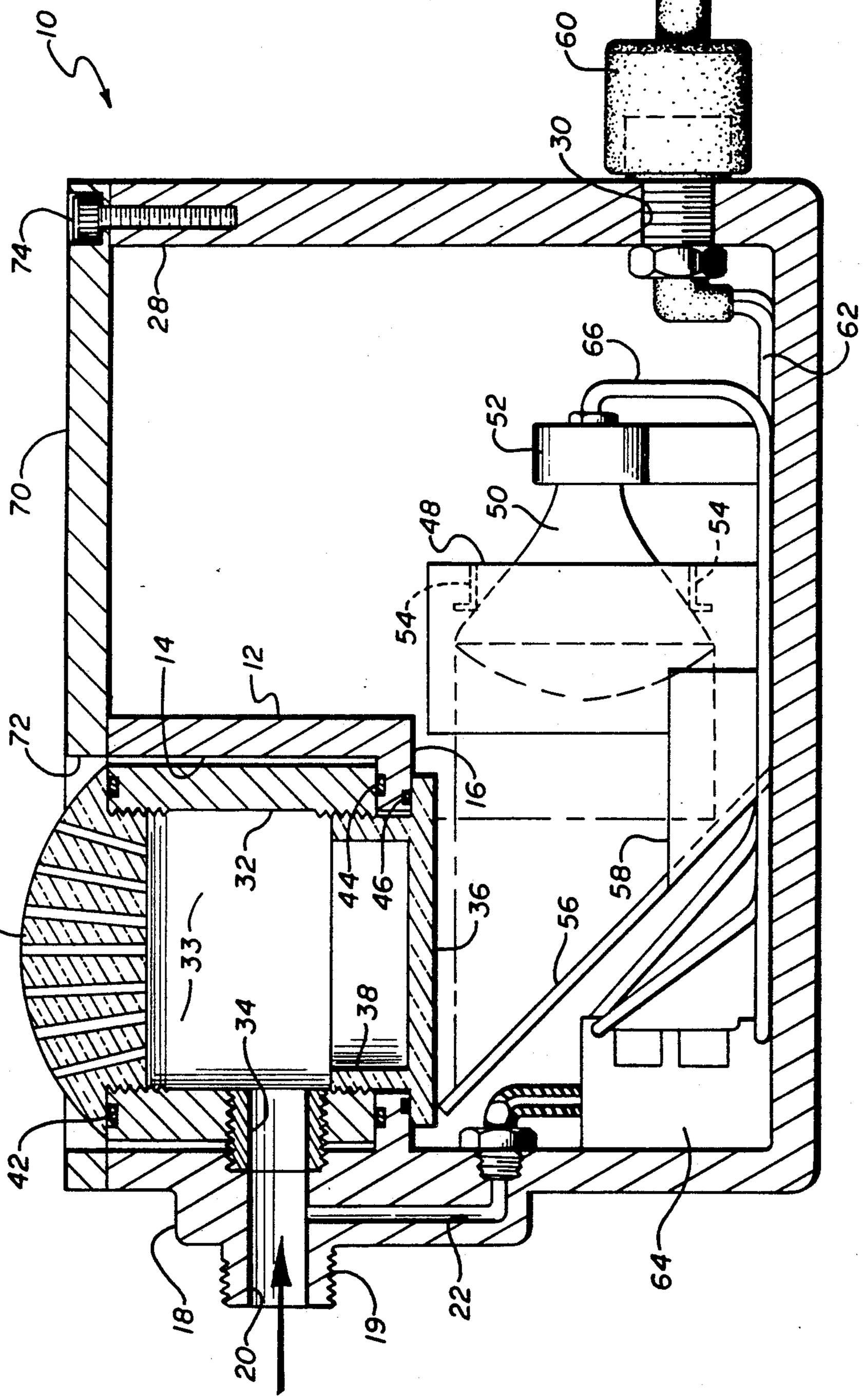


FIG. 4

FIG. 3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LIGHTING FIXTURE INCORPORATING FOUNTAIN

BACKGROUND OF THE INVENTION

This invention relates to an illuminated fountain and more particularly to an illuminated fountain which can be made of unusually small size and which is quite inexpensive.

It is well known to provide light in connection with flowing water such as in fountains wherein the light produces an attractive visual effect, particularly when the surrounding area is dark. Examples of prior devices for producing such effects are shown in U.S. Pat. Nos. 492,999; 1,281,869; 1,802,082; 1,839,994; 3,337,133; 4,749,126; 4,901,922; and 4,936,506. Most of the devices shown in these patents are fairly large and elaborate, incorporate a significant number of parts and would be quite expensive to manufacture. Because of the current interest in decorative lighting it is believed that there is a need for an illuminated fountain which is simple, inexpensive, relatively small and safe for the average homeowner to work with.

BRIEF DESCRIPTION OF THE INVENTION

Applicant is provided in an illuminated fountain including a relatively simple and small housing, such as of a cast material such as aluminum, including a water chamber connected to a source of water such as a garden hose, the chamber having a bottom plate of transparent material and a cap with multiple perforations for creating a spray. Any desired pattern of perforations might be used and interchangeable caps having different flow patterns may also be used. A source of illumination such as a lamp is directed to a reflector which reflects light from the lamp through the transparent bottom plate of the water chamber. In this manner the light illuminates the water in the chamber but more particularly it illuminates the small columns of water flowing through the perforations, thus providing a lighted spray with an attractive visual effect. The lamp which is preferably connected to a low voltage wiring system (12 V for example) such as that often used for outdoor illumination, is connected to a pressure responsive switch which responds to pressure of the water delivered to the water chamber to turn on the lamp.

BRIEF DESCRIPTION OF THE DRAWINGS

This invention may be more clearly understood from the following detailed description and by reference to the drawing in which:

FIG. **1** is a perspective view, partly broken away, of the housing used in the illuminated fountain embodying our invention;

FIG. **2** is a top view of the housing of FIG. **1** with some components installed;

FIG. **3** is a sectional view of the completed illuminated fountain showing the arrangement of internal parts;

FIG. **4** is a top view of the completed fountain depicted in FIG. **3**.

DETAILED DESCRIPTION OF THE INVENTION

FIG. **1** is a perspective view of a housing used for the illuminated fountain according to our invention. In this drawing and in FIG. **2** it will be seen that the housing **10** is in the form of a rectangular box having semi-cylindrical ends which may be of cast aluminum. At one end is an internal cylindrical wall **12** which extends from the top of housing **10** to slightly less than halfway down into the housing from the top, cooperating with the end of housing **10** to form an internal cylindrical chamber **14**. At the bottom of wall **12** and extending around the bottom of chamber **14** is a radially-inwardly extending flange **16**. Also formed as part of housing **10** is a generally semi-cylindrical projection **18** having attached thereto a boss **19** which includes a passage **20** communicating with the interior of chamber **14**, projection **18** also including a second passage **22** which communicates with passage **20** and connects with the inside of housing **10** below chamber **14**. Also formed with housing **10** are some thickened wall sections or bosses **24**, **26**, and **28** which are tapped to receive screws for attaching a cover, not shown in FIGS. **1** and **2**. An electrical connector is attached to housing **10** at a port **30**.

FIG. **3** is a sectional view of the complete illuminated fountain including the housing **10**, the internal wall **12** with flange **16**, the water inlet port **20** and the passage **22** communicating water inlet port **20** with the interior of housing **10**. Positioned within chamber **14** is a cylindrical member **32** forming the vertical wall of a water chamber **33** and including a port **34** forming an extension of water inlet port **20**. Member **32** is internally threaded at its top and bottom. A bottom plate **36** of transparent plastic material such as glass or plastic includes an upstanding cylindrical flange **38** which is externally threaded and which is threadedly engaged with the threaded internal edge of flange **16** and with the threads on the lower internal surface of member **32**. A cap member **40** having a desired pattern of passageways therethrough is threadedly engaged with the top of member **32**. O-ring seals **42** and **44** are positioned at the top and bottom edge surfaces of member **32**. A similar O-ring seal **46** is located between bottom plate **36** and the bottom surface of flange **16**. The described seals are effective to prevent water from water chamber **33** from leaking into the lower part of the housing.

Supported in a fixture **48** carried on the bottom of housing **10** is a lamp **50** which is plugged into a socket **52**. A plurality of small wire prongs **54** fastened to fixture **48** support lamp **50** in the desired position. Lamp **50**, when illuminated, directs light against a reflector **56** such as a mirror which redirects the light through the transparent plate **36** into the water chamber **33**. Reflector **56** is supported in the housing **10** at the desired angle by means of a bracket **58** which may be attached to fixture **48**.

An electrical connector **60** is connected to housing **10** at port **30** and provides electrical energy to socket **52** from, preferably, a low voltage source such as **12** volts, through wires **62** which are connected to a pressure switch **64** and additional wires **66**. Pressure switch **64** is connected with the water pressure source through a conduit **68** fastened to the wall of housing **10** such that it communicates with the conduit **22**. Lamp **50** is therefore turned on only when the pressure switch **64** senses water pressure being supplied to water chamber **33**.

A cover **70** for housing **10** is shown in FIGS. **3** and **4** and includes a circular opening **72** through which cap **40** protrudes. Cover **70** is secured to housing by means of screws **74** threadedly engaged with the tapped holes in bosses **24**, **26**, and **28** in housing **10**. These screws are easily removed to provide access to the interior of housing **10** to replace lamp **50** without the need to disturb

any seals which might affect the water tight integrity of water chamber 33.

From the foregoing it will be appreciated that the illuminated fountain of the present invention is quite simple to manufacture, safe to work with because of the low voltage used and may be made quite compact and compatible in size with other outside lighting fixtures. In one embodiment applicant's housing is less than about 7 inches long, 5 inches high and 3 inches wide. Dimensions will vary with the light source and the particular electrical and water connectors used. The above described embodiments of the present invention are merely descriptive of its principles and are not to be considered limiting. The scope of the present invention instead shall be determined from the scope of the following claims including their equivalents.

What is claimed is:

1. In an illuminated fountain including a molded housing having a top and a bottom, at least one end of which is semi cylindrical, a cylindrical chamber including an internal wall molded in said semi-cylindrical end and located near the top of said housing, said chamber having an open top and an open bottom with a radially inwardly extending flange at the bottom, and a separate member of transparent material located at the bottom of said chamber;

a cylindrical member positioned in said chamber adjacent the internal wall thereof and supported on said flange;

a cap of transparent material covering said cylindrical member and threadedly engaged therewith and a plurality of ports extending through said cap, said separate member, said cylindrical member and said cap constituting a water chamber;

conduit means connecting said water chamber with a source of water under pressure;

a source of electrical power connected to said housing;

a lamp in said housing connected to said electrical power source;

a reflector positioned to receive light from said lamp and direct it toward the bottom of said water chamber, wherein said lamp directs light laterally across said housing toward said semi-cylindrical end, and said reflector is supported at the bottom of said housing and positioned at an angle with respect to the light from said lamp to direct the light from said lamp into said water chamber; and

switch means responsive to the presence of water pressure in said conduit means to energize said lamp.

2. An illuminated fountain as claimed in claim 1 wherein said housing includes a cover having an opening surrounding said cap said cover being removable to replace said lamp.

3. An illuminated fountain as claimed in claim 1 wherein seal means are provided between said cylindrical member and said cap and between said radially inwardly extending flange and said separate member of transparent material.

4. An illuminated fountain as claimed in claim 1 wherein said water chamber cap is interchangeable with others having a different pattern of ports for directing water.

5. In an illuminated fountain including a molded housing having a top and a bottom and including a cylindrical chamber having an internal wall and upper and lower open ends with the upper said open end being located near the top of said housing, said lower open end having a radially inwardly extending flange, and a separate member of transparent material located at the lower open end of said chamber including a cylindrical portion adjacent said flange and having external threads;

a cylindrical member positioned in said chamber adjacent the internal wall thereof and having internal threads engaged with said external threads;

a cap of transparent material covering said cylindrical member and threadedly engaged therewith and a plurality of ports extending through said cap; said separate member, said cylindrical member and said cap constituting a water chamber;

conduit means connecting said chamber with a source of water under pressure;

a source of electrical power connected to said housing;

lamp means in said housing connected to said electrical power source;

a reflector positioned to receive light from said lamp means and direct it toward the bottom of said water chamber; and

switch means connected to said source of electrical power and responsive to the presence of water pressure in said conduit means to energize said lamp means.

6. An illuminated fountain as claimed in claim 5 wherein said molded housing includes a cover having an opening surrounding said cap said cover being removable to replace said lamp.

7. An illuminated fountain as claimed in claim 5 wherein said water chamber cap is interchangeable with others having a different pattern of ports for directing water.

8. An illuminated fountain as claimed in claim 5 wherein seal means are provided between the upper open end of said cylindrical member and said cap and between said radially inwardly extending flange and said separate member of transparent material.

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